

REMARKS

Applicant respectfully requests reconsideration of this application as amended. Claims 9-14, 18-21, and 56-58 remain in the application. Claims 9, 18, and 56 have been amended. No claims have been added or canceled.

Rejections under 35 U.S.C. § 102(e)

Applicant's claims 9-14, 18-21, and 56-58 have been rejected under 102(e) as being anticipated by Hama, US Patent Publication No. 2004/0202171. Applicant does not admit that Hama is prior art and reserves the right to swear behind the reference at a later date. Nonetheless, Applicant respectfully submits that Hama does not disclose each and every element of the invention as claimed in claims 9-14, 18-21, and 56-58.

Hama discloses establishing a virtual private network (VPN) where the core network for the VPN is a multi-protocol label switched (MPLS) network and networks for accessing the core network are virtual local area networks (VLANs) (Hama, Abstract). Hama's edge router straddles the MPLS and VLAN networks (Hama, Figure 1), with each edge router comprising one or more separate subrouters and line cards (Hama, Figure 2, paragraph 0072-0073). There is a subrouter for each VPN the edge router participates in (Hama, Figure 5, paragraph 0075). Each subrouter converts the VLAN VPN traffic to MPLS VPN traffic and visa versa using the subrouter's own VPN forwarding table and the edge router's common MPLS Label Switch Path (LSP) network forwarding table (Hama, Figure 2, paragraphs 0074). The subrouter takes incoming VLAN VPN traffic and converts the VLAN VPN traffic to the appropriate MPLS LSP by swapping the VLAN tag with the LSP label (Hama, Figure 9, paragraph 0087). The subrouter converts the MPLS VPN traffic to VLAN VPN traffic in the reverse fashion

(Hama, Figure 9, paragraph 0088). The subrouter then forwards the MPLS traffic out the appropriate line card (Hama, paragraph 0074). The line cards transmit and receive packets and relay the packets to and from the sub-router for the processing described above (Hama, paragraph 0072). Furthermore, Hama discloses sharing VPN routing information between different edge routers (Hama, Figure 16, 405, paragraph 0109).

Thus, Hama discloses the subrouters, and not the line cards, have and/or use the VPN VLAN and LSP forwarding tables. In addition, Hama discloses that the VPN routing information can be shared among different edge routers.

Applicant respectfully submits that Hama does not teach or suggest Applicant's claims. In particular, Hama discloses an edge router that receives packets with a line card and processes the packets based on the appropriate LSP assigned to the packets with a sub-router. Furthermore, Hama's edge router can share VPN information with other edge router. Nonetheless, because Hama's subrouter uses the LSP forwarding tables, Hama cannot teach or suggest selectively distributing LSP forwarding data structures to different line card, much less selectively distributing the LSP forwarding data structures based on the ingress and egress line cards associated with the LSP. In addition, Hama does not disclose the edge router having separate control and data planes.

For example, claim 9 requires "...selectively distributing different ones of the forwarding data structures to different ones of the plurality of line cards apart from distribution to the plurality of routing protocol modules and the routing information base, wherein the selective distribution of a particular forwarding data structure to a particular line card is based on an ingress and an egress line card associated with the LSP represented by the particular forwarding data structure."

As another example, claim 18 requires, as amended, “...a label manager to selectively distribute different ones of the forwarding data structures to different ones of the plurality of line cards, wherein the selective distribution of a particular forwarding data structure to a particular line card is based on an ingress and an egress line card associated with the label switched path represented by the particular forwarding data structure.”

Furthermore, claim 56 requires “ ... maintaining in a control plane a first data structure that represents a label switched path (LSP), the first data structure indicating a virtual port, a virtual slot, and an identifier to distinguish LSPs of the virtual port and the virtual slot ... selectively distributing the first data structure, the index, and the egress to certain of a set of one or more label forwarding information bases (LFIBS) in a data plane, wherein the selective distribution is based on an ingress and an egress line card associated with the LSP.”

The above quoted limitations are not described or suggested by Hama. While there are various uses for the invention as claimed, several such uses are discussed at paragraphs 0030-0034. Thus, while the invention is not limited to the uses discussed in these paragraphs, it should be understood that Hama does not enable these uses and the above quoted limitations do.

For at least these reasons, Applicant respectfully submits that the independent claims are allowable. Applicant respectfully submits that the dependant claims are allowable for at least the reason that they are dependent on an allowable independent claim.

Conclusion

Applicant respectfully submits that the rejections have been overcome by the amendments and remarks, and that the Claims as amended are now in condition for allowance. Accordingly, Applicant respectfully requests the rejections be withdrawn and the Claims as amended be allowed.

Invitation for a telephone interview

The Examiner is invited to call the undersigned at 408-720-8300 if there remains any issue with allowance of this case.


Charge our Deposit Account

Please charge any shortage to our Deposit Account No. 02-2666.

Respectfully submitted,

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